UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

1-D

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/611,182	07/06/00	KOZLOV	A	H16-26603

IM52/0406

JOHN G SHUDY JR
HONEYWELL INTERNATIONAL INC
PATENT DEPARTMENT
101 COLUMBIA ROAD
MORRISTOWN NJ 07962-2245

EXAMINER	
BARR, M	
ART UNIT	**PAPER NUMBER**
1762	3

DATE MAILED: 04/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/611,182	KOZLOV ET AL.	
	Examiner	Art Unit	
	Michael Barr	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-26* is/are rejected.

7)☒ Claim(s) *5 and 6* is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☒ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 23 is objected to because of the following informalities: Claim 23 contains the word "ceramics". However, the plural form of ceramic is grammatically incorrect. It should be changed to --ceramic--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 cites the limitation of "the diamminebis(nitrito-N,N) platinum (II)". There is a lack of antecedent basis for this limitation in the claim.

Claim 8 cites the limitation of "the triamminetris(nitrito-N,N,N) rhodium (III)". There is a lack of antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 24 and 26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rhoda et al.

Rhoda et al. teaches plating a substrate with a rhodium-platinum alloy by electroless plating (Example V). Although Rhoda et al. does not teach using the same plating solution, the product produced by Rhoda et al. would be the same as that claimed by the applicant, and thus anticipates the claimed product of Claims 24 and 26, or if the product of Rhoda et al. is not identical to the claimed product, the claimed product would have been an obvious variation as they are substantial equivalents.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-2, 4, 7, 9-21, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoda et al. in view of Chang et al.

Rhoda et al. teaches electrolessly plating a substrate, such as a glass, metal, or ceramic, with a platinum-rhodium alloy, by exposing the substrate to an aqueous, electroless platinum-rhodium plating solution bath, which can comprise a platinum salt, a rhodium ammine nitrite salt, ammonium hydroxide, and hydrazine hydrate, where the components of the bath can be supplied in the claimed concentrations (Col. 2, lines 15-33; Col. 3, lines 1-11; Example V; Col.

5, lines 25-52). Rhoda et al. indicates that uniform plating layers are provided with the process (Col. 3, lines 44-46). The electroless plating process of Rhoda et al. does not utilize electrolysis and is autocatalytic. Rhoda et al. teaches that the plating bath can be at a temperature of 25-35°C (Example V). The use of a plating bath in Rhoda et al. would indicate that the substrate is dipped into the plating solution for the plating process.

Rhoda et al. does not teach that the platinum salt is a platinum nitrite or ammine-nitrite salt. Chang et al. teaches an electroless platinum plating solution utilizing ammonium hydroxide and hydrazine hydrate, where the platinum salt is platinum diammine dinitrite (Claim 9). The platinum diammine dinitrite of Chang et al. meets the platinum salt limitations of the applicant's Claims 1-2 and 4. It would have been obvious to one skilled in the art to use a conventional platinum salt in the process and solution of Rhoda et al. with the expectation of providing the desired results. It would have been obvious to one skilled in the art to use the platinum diammine dinitrite of Chang et al., as the platinum salt material in Rhoda et al., with the expectation of providing the desired electroless plating results, since it is shown by Chang et al. that platinum diammine dinitrite is a known platinum salt for use in electroless plating solutions containing ammonium hydroxide and hydrazine hydrate.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoda et al. and Chang et al. as applied to claim 1 above, and further in view of JP 58204168 by Torikai et al. ("Torikai").

Rhoda et al. and Chang et al. do not teach that the rhodium salt has a formula meeting the limitations of Claim 3. Torikai teaches an electroless rhodium plating solution, containing a platinum salt, ammonium hydroxide, and hydrazine hydrate; where the rhodium salt utilized can

be in the form of an ammine-nitrite salt, which meets the limitations of the applicant's Claim 3 (Abstract; Pg. 3, 3rd full paragraph; Example 4). It would have been obvious to one skilled in the art to use a conventional rhodium salt in the process and solution of Rhoda et al. and Chang et al. with the expectation of providing the desired results. It would have been obvious to one skilled in the art to use the rhodium salt described by Torikai, as the platinum salt material in Rhoda et al. and Chang et al., with the expectation of providing the desired electroless plating results, since it is shown by Torikai that such a rhodium salt is known for use in electroless plating solutions containing a platinum salt, ammonium hydroxide, and hydrazine hydrate.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoda et al. and Chang et al. as applied to claim 11 above, and further in view of Ishihara et al.

Rhoda et al. and Chang et al. do not teach that the substrate is a semiconductor. Ishihara et al. teaches applying a platinum-rhodium alloy plating over a substrate comprising a semiconductor material (Col. 2, lines 45-60). The substrate described by Ishihara et al. meets the limitations of Claim 22. It would have been obvious to one skilled in the art to use a substrate, such as that of Ishihara et al. to be platinum-rhodium alloy plated by the plating solution of Rhoda et al. and Chang et al., with the expectation of providing the desired plating results, since it is shown by Ishihara et al. that such a substrate is conventionally plated with platinum-rhodium alloy.

Allowable Subject Matter

10. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

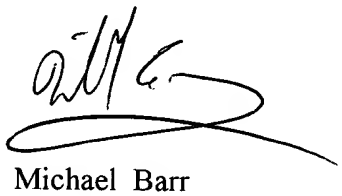
12. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art cited or reviewed by the examiner teaches or fairly suggests an electroless plating solution containing the claimed platinum salt, rhodium salt, ammonium hydroxide, and hydrazine hydrate, where the rhodium salt is triamminetris(nitrito-N,N,N) rhodium (III). The prior art fails to teach the use of this salt in the electroless plating composition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Barr whose telephone number is 703-305-7919. The examiner can normally be reached on Monday-Thursday 6:30 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Michael Barr
Examiner
Art Unit 1762

MB
April 5, 2001